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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/513,090	02/25/2000	Pulin R Patel	067191.0113	7780

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Baker Botts LLP  
2001 Ross Avenue  
Dallas, TX 75201-2980

EXAMINER

FERRIS, DERRICK W

ART UNIT

PAPER NUMBER

2663

DATE MAILED: 04/19/2004

*04*

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/513,090

**Applicant(s)**

PATEL ET AL.

**Examiner**

Derrick W. Ferris

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 37-46 and 85-94 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 37-46 and 85-94 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 25 February 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Finality*

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

### *Response to Amendment*

2. **Claims 37-46 and 85-94** are pending. Applicant has canceled claims 95-107.

3. Examiner **withdraws** the obviousness rejection to *Sevens* in view of *Haas* in further view of *Corson* for Office action filed 02/03/04. Applicant has canceled the claims rendering the rejection moot.

4. Examiner **withdraws** the obviousness rejection to *Sevens* in view of *Haas* and *Sevens* in view of *Haas* in further view of *Ciotti* for Office action filed 02/03/04. Applicant's claims as necessitated by amendment overcome the cited art. As such, please find a new rejection(s) below based on applicant's claim amendment.

### *Claim Rejections - 35 USC § 102*

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an

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international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. **Claims 37-40, 42, 44-46, 85-88, 90, and 92-94** are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,414,955 B1 to *Clare et al.* (“*Clare*”).

As to **claim 37**, *Clare* teaches a distributed topology learning method and apparatus for wireless networks which determines a set of communication nodes (i.e., communication neighbors) and a set of interfering nodes (i.e., interfering neighbors), see e.g., figure 2. In summary, a new node when first powering up (or timing out) activates a startup state, determining initial operating parameters, configures the node, and then activates an RF system to communicate with the other nodes (i.e., the inviting nodes and other active nodes). Once in the listening state (i.e., transitioning to the learning state), the new node performs the further steps of collecting operation data, modifying operational parameters based on operational data, and reconfiguring the wireless node in an iterative fashion by passing schedules to various nodes in the system. Once sink info is received and a new communication with routing is received, the router is considered in the normal operating state (until the node times out or a new node is added to the system).

In particular, for the limitations “activating the wireless node in a start up state”, “automatically determining in the start up state a plurality of operating parameters for the wireless node”, “configuring the wireless node based on the operating parameters” and “activating a radio frequency (RF) system for the wireless node”, see e.g., step 220 in figure 12a; column 8, lines 8-23; column 14, lines 57-65; and column 16, line 54 –

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column 17, line 8. For the limitation “transitioning the wireless node to a learning state” and “collecting operational data in the learning state and modifying operating parameters based on the operational data” see e.g., column 8, lines 23-27; column 15, lines 1-42; and column 20, line 56 - column 21, line 41. For the limitation “reconfiguring the wireless node based on the modified operating parameters” see e.g., column 14, lines 12-30; column 15, lines 10-67; and column 20, line 56 - column 21, line 41. For the limitation “after reconfiguring the wireless node, transitioning the wireless node to a normal operating state in response to determining the operational data is within predefined parameters” see e.g., column 8, lines 27-30; column 14, lines 32-35; and column 16, lines 22-27. Examiner furthermore notes a reasonable but broad interpretation of “is within predefined parameters” since the new node now becomes a member of the group since the operational data (i.e., topology data) is within predefined parameters (i.e., the new node is within the member set in reference to figure 2).

As to **claim 38**, see e.g., column 8, lines 20-22.

As to **claim 39**, see e.g., column 15, lines 10-67.

As to **claim 40**, see e.g., figures 12a-d.

As to **claim 42**, see e.g., column 14, lines 30-35; column 16, lines 59-62 and figures 12a-12d.

As to **claim 44**, see e.g., column 23-26 where a “node” routers information, see e.g., column 14, lines 12-34.

As to **claim 45**, see e.g., figure 2.

As to **claim 46**, see e.g., interference topology.

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As to **claim 85**, see similar rejection for claim 37.

As to **claim 86**, see similar rejection for claim 38.

As to **claim 87**, see similar rejection for claim 39.

As to **claim 88**, see similar rejection for claim 39.

As to **claim 90**, see similar rejection for claim 42.

As to **claim 92**, see similar rejection for claim 44.

As to **claim 93**, see similar rejection for claim 45.

As to **claim 94**, see similar rejection for claim 46.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 41, 43, 89, and 91** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,414,955 B1 to *Clare et al.* ("*Clare*") in view of "On the Performance of a Routing Protocol for the Reconfigurable Wireless Network" to *Haas et al.* ("*Haas*").

In making a proper obviousness rejection under MPEP 706.02(j), the examiner will address the following four steps:

- a) *the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line numbers where appropriate;*
- b) *the difference of differences in the claim(s) over the applied cited references;*
- c) *the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter; and*

- d) *an explanation why one skilled in the art at the time of the invention was made would have been motivated to make the proposed modification.*

As such to **claim 41 and 43**, for step (a) *Clare* discloses the elements for the base claim.

For step (b) *Clare* is silent or deficient to the further limitations collecting operational data in the normal operating state and transitioning back to the learning state in response to determining the operational data is outside predefined parameters and transitioning from the normal operating state back to the learning state in response to accepting a modification in operating parameters requested by a neighboring node respectively. In particular, *Clare* teaches transitioning back to a learning state when a node powers up, reaches a certain time interval, or adds a new node in the topology.

*Haas* teaches the further recited limitation above at e.g., left hand column page 102.

For step (c), the proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Clare* to further clarify that the normal operating state and transition back to a learning state in response to determining that the operational data is outside the predefined parameters or in response to accepting a modification in operating parameters requested by a neighboring node.

In order to establish a prima facie case of obviousness for step (d), three basic criteria must be met. The three criteria according to MPEP 706.02(j) are as follows:

*First there must be some suggestion or modification, either in the reference(s) themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a*

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*reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.*

As such, for step (d) examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the further limitations collecting operational data in the normal operating state and transitioning back to the learning state in response to determining the operational data is outside predefined parameters and transitioning from the normal operating state back to the learning state in response to accepting a modification in operating parameters requested by a neighboring node respectively. In particular, the motivation for modifying the reference or to combine the reference teachings would be once a node starts routing/switching there is a need to reconfigure the node if the node moves out of a zone causing parameters not to be within a "predetermined threshold". In particular, *Haas* cures the above-cited deficiency by providing a motivation found at e.g., page 104, right-hand column. Second, there would be a reasonable expectation of success since both references disclose ad hoc networking. Thus the references either in singular or in combination teach the above claim limitation.

As to **claim 89**, see similar rejection for claim 41.

As to **claim 91**, see similar rejection for claim 43.

### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO



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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (703) 305-4225. The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (703) 308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
DWF

Derrick W. Ferris  
Examiner  
Art Unit 2663

  
CHI PHAM  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600 4/15/08